

WHAT IS CLAIMED IS:

1. A cloned gene encoding the expression of an antigenic mutant pertussis toxin with substantially reduced enzymatic activity.
2. An antigenic mutant pertussis toxin having substantially reduced enzymatic activity.
3. The mutant toxin of claim 2 having a single amino acid substitution comprising replacing arginine with lysine at position 9 of S1 subunit.
4. A composition comprising immunogenic amount of the toxin of claim 2 in a pharmaceutically acceptable carrier.